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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/268,194	03/15/1999	HIROSHI YAMADA	58803-CCD	8059

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EXAMINER

CROSS, LATOYA I

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 06/25/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/268,194

Applicant(s)

YAMADA ET AL. 

Examiner

LaToya L. Cross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

This Office Action is in response to Applicants' amendment filed on April 3, 2003 and entered as Paper No. 11. Claims 1-16 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 14 remain to be rejected under 35 U.S.C. 102(b) as being anticipated by the abstract of Japanese publication 62-299388 to Satomura et al (hereinafter Satomura et al '388).

Satomura et al '388 teaches a heat-sensitive recording material comprising an electron donating colorless dye and an electron accepting compound. Also included is a heat fusible compound such as diphenyl phthalate. Diphenyl phthalate may also serve as a color-erasing agent. In making the heat sensitive recording material, Satomura et al '388 teaches including a pigment material into the composition. While, Satomura et al '388 does not disclose how discoloration is triggered, the medium of Satomura et al '388 contains the same components as that instantly claimed by Applicants. Also, Satomura et al '388 teaches that the material is heat-sensitive meaning that medium changes color according to the presence or absence of heat. The properties and functions of the components are presumably inherent. See MPEP 2112.01.

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Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102, in view of the teachings of Satomura et al '388.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1 and 4-16 remain to be rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,981,115 to Furuya et al (hereinafter Furuya et al '115).

Furuya et al teach a reversible heat-sensitive recording medium comprising an electron donating coloring agent and an electron accepting color developer, wherein an image can be reversibly formed and erased as a result of heating and cooling. See abstract. At col. 26, lines 42-48, Furuya et al teach that an image erasure (color erasing) component may be including in the recording medium. Furuya et al teach that secondary and/or tertiary amine compounds have image erasing abilities. At col. 32, lines 60-67, Furuya et al '115 teach that a substrate, such as paper, films, etc. may be used to support the recording medium, containing the electron accepting agent and electron donating agent, as in claims 4 and 11. The recording medium is used in conjunction with several additional layers including an adhesive layer, an intermediate layer (barrier layer), an under-coat layer, a back-coat layer and a protective layer, as recited in claims 5-10 (col. 33, lines 1-5). With respect to claims 11 and 12, Furuya et al '115 teach the use of microencapsulated color developers (electron accepting compound) and a coloring agent (electron donating compound). See col. 26, lines 14-16. With respect to claim 13, Furuya et al teach that more than one color developer and coloring agent may be used. Regarding the addition of pigments, as recited in claim 14, Furuya et al teach the use of materials such as clay and silica (col. 28, lines 59-67).

Furuya et al differ from the instant invention in that 1) there is no explicit teaching of the use of a color erasing compound and 2) there is no teaching of the use of one layer containing the electron accepting component and another layer containing the electron donating compound.

With respect to the color erasing compound, Furuya et al teach the presence of an image erasure component, which functions similarly to the color erasing component. At col. 26, lines 42-67, Furuya et al teach that such components have image erasing abilities and promote image erasure while not compromising the stability of the recording medium to be maintained. It would have been obvious to one of ordinary skill in the art to use a color erasing component to control the color erasing ability of the recording medium.

With respect to the electron accepting and electron donating components being in separate layers, such is a design preference that has no bearing on the functioning of the medium. See MPEP 2144.04. It would have been obvious to one of ordinary skill in the art to choose any suitable design to carry out the purpose of the medium. Absent evidence to contrary, Applicants' use of individual layers would not have substantial advantages over the use of one layer containing both components.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be obvious, within the meaning of 35 USC 103 in view of the teachings of Furuya et al.

Response to Arguments

5. Applicant's arguments filed on April 3, 2003 have been fully considered but they are not persuasive. With respect to the Satomura et al, Applicants argue that the reference fails to teach a "temperature history recording medium". Applicants state that the reference teaches a

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“recording material”, but fails to describe the recording material as being useful in recording temperature history. In response Satomura et al teach that the recording medium is heat sensitive and forms a stable color image. As explained in the rejection, heat sensitive means that the material records according the presence or absence of heat. This is the same manner in when a temperature history recording medium operates. In response to temperature changes, usually an increase in temperature, the recording material will change colors to notify the user that a change in the temperature has occurred. Because of its ability to change color in response to heat, the material of Satomura et al would indeed be suitable for use in temperature history recording means. There is no difference in the device of Satomura et al, which develops color in response to heat, and the device of the instant invention which changes color in response to temperature changes.

With respect to the Furuya et al rejection, Applicants argue the point made regarding the Satomura et al reference – Furuya et al teaches a recording material but does not disclose a temperature history recording medium. In response, Furuya et al teach that the material is a thermosensitive recording material, which again responds to a change in temperature. The material of Furuya et al has the ability to change colors in response to temperature changes, which would make it suitable to be used in temperature history recording capacities.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until

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after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is 703-305-7360. The examiner can normally be reached on Monday-Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 703-308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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June 19, 2003


Jill Warden
Supervisory Patent Examiner
Technology Center 1700